

We claim:

1. A non-human transgenic animal having binding to the melanocortin 4 receptor function inactivated.
2. The animal of claim 1 wherein the animal expresses a molecule from a genetically engineered construct stably integrated into its genome wherein the molecule binds to the melanocortin 4 receptor.
3. The animal of claim 2 wherein the molecule is a syndecan.
4. The animal of claim 2 wherein the molecule is expressed preferentially in the hypothalamus.
5. The animal of claim 4 having incorporated therein a construct including a cytomegalovirus promoter or portion thereof including the intermediate/early enhancer.
6. The animal of claim 1 having the genotype FVB/N-TgN(synd-1).
- ~~7. A genetically engineered construct for making a transgenic animal comprising a promoter and a nucleic acid molecule encoding a syndecan, wherein the syndecan is preferentially expressed in the hypothalamus.~~
8. The construct of claim 7 wherein the promoter is the cytomegalovirus promoter or a functional portion thereof including the intermediate/early enhancer.
9. The construct of claim 7 wherein the syndecan is syndecan-1.
10. A method for screening for compounds which can alter body weight comprising
administering a compound to a non-human transgenic animal having binding to the melanocortin 4 receptor function inactivated, and
observing whether there is a change in body weight over a period of time.
11. The method of claim 10 wherein the animal expresses a molecule from a genetically engineered construct stably integrated into its genome wherein the molecule binds to the melanocortin 4 receptor.
12. The method of claim 10 wherein the molecule is a syndecan.
13. The method of claim 11 wherein the molecule is expressed preferentially in the hypothalamus.

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